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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/431,159	11/01/1999	YORAM BRONICKI	P-15149	8345

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WASHINGTON, DC 20005

EXAMINER
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DOROSHENK, ALEXA A

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/431,159

Applicant(s)

BRONICKI, YORAM

eb

Examiner

Alexa A. Doroshenk <sup>ADD</sup>

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 11 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 24, 2003 has been entered.

### ***Claim Objections***

2. Claim 11 is objected to because of the following informalities: The examiner finds the term "said further thermal cracker" to be somewhat unclear as two thermal crackers have been recited in claim 1. The examiner suggests applicant amend the claim to recite "said light vacuum fraction thermal cracker" (or "said deasphalted oil thermal cracker") in order to clarify the claim language. Appropriate correction is required.

For examination purposes, the examiner has determined, from applicant's figures, the thermal cracker in question to be the "light vacuum fraction thermal cracker".

3. Claim 12 is objected to under 37 CFR 1.75(c) as being in improper form because a claim cannot be dependent upon a canceled claim (claim 2). See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Dongen et al. (4,405,441) in view of van Klinken et al. (4,039,429) and Kwant et al. (4,200,519).

Van Dongen et al. discloses an apparatus comprising:

a heater for heating heavy hydrocarbons (401) and an atmospheric fractionating tower for fractionating the heated heavy hydrocarbon feed as a first atmospheric distilling unit (407) (Since a still contains both a heat source and a fractionating tower, the atmospheric distillation unit is equivalent to the heater and the atmospheric fractionating tower of the present invention);

a further heater and vacuum fractioning tower as vacuum distilling unit (408) for atmospheric bottoms (421);

a de-asphalting unit (409) for producing DAO (403) and asphaltenes (404) from said vacuum residue (402); and

a thermal cracker (412) for cracking de-asphalting unit oil (403) with recycle connections from an outlet (425) of the thermal cracker (412) to an inlet (418) of the atmospheric fractioning tower (407) (via 425, 428, 429, 405, 415, 416, 418).

Van Dongen et al. further discloses wherein the light vacuum fractions may be subjected to thermal cracking (col. 1, lines 25-28) and further sites the van Klinken et al. reference as demonstrating the processing of such fractions.

Looking to the cited van Klinken et al. reference, the vacuum distilling zone (3) has light fraction (21) sent to a cracking zone (10) along with oil (23) from a de-asphalting unit (4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide means, in the apparatus of Van Dongen et al., for supplying the vacuum light fractions to the thermal cracking unit (412) as it has been taught by van Klinken et al. that a single cracking unit is capable of cracking both vacuum light fractions and de-asphalting unit oil and since such further processing of vacuum light fractions by thermal cracking is recognized by Van Dongen et al. to be desirable.

The claims, as amended, recite wherein a line from said thermal cracker recycles only cracked oil to the inlet of the atmospheric fractionating tower. In view of the arguments presented by applicant and applicant's disclosure, this has been interpreted as wherein a line directly connects the cracker with the atmospheric fractionating tower for recycle of oil without any interposing distillation, fractionation or treatment units.

Van Dongen et al. discloses wherein oil is recycled from the thermal cracking unit (412) to an inlet (418) of the atmospheric fractioning tower (407) via 425, 428, 429, 405, 415, 416, 418 wherein an additional atmospheric distillation unit, a vacuum distillation unit and catalytic hydro-treating unit are interposed.

Kwant et al. also teaches a process for the preparation of oil wherein thermally cracked product (11) is recycled directly from a thermal cracking zone (4) to the inlet (12) of a first atmospheric distillation zone (3), demonstrating that cracked oil can be

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directly recycled to an atmospheric distillation zone, without interposing treatments, and a system will continue to be fully operational.

It is held that it would have been obvious to one of ordinary skill in the art at the time the invention was made to eliminate the interposing units and their functions in the recycle line of Van Dongen et al. because the omission of an element and its function where not needed (as demonstrated by Kwant et al.) is obvious. Ex parte Rainu, 168 USPQ 375 (PTO Bd. of Appl. 1969).

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Dongen et al. (4,405,441) in view of van Klinken et al. (4,039,429) and Kwant et al. (4,200,519), as applied to claim 1 above, and further in view of Frayer et al. (3,254,020).

The modified apparatus of Van Dongen et al. does not disclose a means for supplying only the heavy portion of the light vacuum fractions to the light vacuum fraction thermal cracker. Van Dongen et al. does disclose wherein it is desired to have the light product of the device to have a low sulfur content (col. 1, lines 57-62).

Frayer et al. teaches an apparatus for the production of reduced sulfur content vacuum fraction product (col. 1, line 69- col. 2, line 14). In this device, Frayer et al. discloses wherein only the heavier portion (8) of the light fraction is supplied to a thermal cracker (16) and teaches that his portion of the vacuum fractionation product is the portion which is required to be cracked in order to produce a reduced sulfur content product. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the teaching of Frayer et al. of only having the heavy portion of the light vacuum fraction supplied to the thermal cracker in the modified

device of Van Dongen et al. as that is the required portion to be cracked in order to achieve Van Dongen et al.'s desire for a low sulfur content product.

### ***Response to Arguments***

7. Applicant's arguments filed November 24, 2003 have been fully considered but they are not persuasive.

Applicant's argue that the combined references do not teach the claimed invention and that they actually teach opposite to the claimed invention since thermal cracking of the original feed takes place and that removal of asphaltenes before thermal cracking is what enables the instant invention.

The examiner respectfully disagrees with applicant. Though the applied references do teach thermal cracking of the original feed, they also teach all of the claimed structural elements. It is noted the instant claims are of the open claim language "comprising" and such claim language does not exclude additional, unrecited elements. MPEP 2111.03.

Additionally, applicant appears to be arguing that the method of operation of the claimed apparatus and that of the references are different. An apparatus claim covers what a devices is, not what a device does, and therefor such arguments are considered moot. MPEP 2114.

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**Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa A. Doroshenk whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alexa Doroshenk  
Patent Examiner  
Art Unit 1764

January 29, 2004